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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
HUYNH, PHUONG N	
ART UNIT	**PAPER NUMBER**
1644	

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/686,157	KNOOPS ET AL.	
	Examiner	Art Unit	
	Phuong Huynh	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *Three* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) *7-11* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *3/7/05* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/486,167.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/16/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-12 are pending.

2. Applicant's election with traverse of Group 1, Claims 1-6 and 12 drawn to an amino acid sequence having more than 70% homology with the sequence of SEQ ID NO: 2 and pharmaceutical formulation comprising said sequence or acceptable salt or derivative thereof, filed 11/16/05, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). The request to for rejoinder of the method claims of Group 2 upon indication of allowable subject matter of Group 1 is acknowledged. However, there is no allowable subject at this time.

3. Claims 7-11 are withdrawn from further consideration by the examiner, 37 C.F.R. 1.142(b) as being drawn to non-elected inventions.

4. Claims 1-6 and 12, drawn to drawn to an amino acid sequence having more than 70% homology with the sequence of SEQ ID NO: 2 and pharmaceutical formulation comprising said sequence or acceptable salt or derivative thereof, are being acted upon in this Office Action.

5. The drawings, filed 3/7/05, are not approved because Figures 14A1-B2 is completely pitched black. Appropriate action is required.

6. The disclosure is objected to because of the following informalities: (1) the specific numbering of amino acid positions disclosed at page 6, paragraph 24, i.e., portions ...comprised between: Glutamic acid position **13** – glutamic acid position **27** does not correspond to Glutamic acids in SEQ ID NO: 2. The number appears to be off by one in *some* but not all of the stated positions. For example, "Glutamic acid position **13** – glutamic acid position **27**" should have been "Glutamic acid **14** – glutamic acid position **28**" in SEQ ID NO: 2. (2) the same problem occurs on page 25, line 2, page 24, last line, and page 25, paragraph 100. Correction is required.

7. Applicant should amend the first line of the specification to update the relationship between the instant application and 09/486,167, filed 8/15/2000, which is now Pat No. 6,759,194.

8. Claim 5 is objected to because of the typographical errors: the numbering of amino acid positions does not correspond to the amino acid in SEQ ID NO: 2 and appears to be off by one in some but not all stated position.

"the glutamic acid in position **13** and the glutamic acid in position **27**,
the alanine in position **26** and the leucine in position **36**,
the alanine in position **42** and the glutamic acid in position **57**,
the glutamic acid in position **57** and the valine in position **69**,
the valine in position **80** and the leucine in position 97,
the arginine in position **95** and the leucine in position 112,
the serine in position **118** and the serine in position **129**,
the valine in position **137** and the threonine in position **150**,
the glutamic acid in position **13** and the cysteine in position **47**,
the glutamic acid in position **13** and the glycine in position **38**,
the leucine in position **36** and the cysteine in position **47**, and
the threonine in position **150** and the leucine in position 162" **should have been**
"the glutamic acid in position **14** and the glutamic acid in position **28**,
the alanine in position **27** and the leucine in position **37**,
the alanine in position **43** and the glutamic acid in position **58**,
the glutamic acid in position **58** and the valine in position **70**,
the valine in position **81** and the leucine in position 97,
the arginine in position **96** and the leucine in position 112,
the serine in position **119** and the serine in position **130**,
the valine in position **138** and the threonine in position **151**,
the glutamic acid in position **14** and the cysteine in position **48**,
the glutamic acid in position **14** and the glycine in position **39**,
the leucine in position **37** and the cysteine in position **48**, and the threonine in position **151** and the leucine in position 162" of SEQ ID NO: 2, respectively.

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 1-6 and 12 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling only for (1) a polypeptide comprising SEQ ID NO: 2 for treating ibotenate induced brain lesions, and (2) a peptide consisting of the amino acid sequence selected from the group consisting of the sequence between the glutamic acid in position 14 and the glutamic acid in position 28 of SEQ ID NO: 2, the alanine in position 27 and the leucine in position 37 of SEQ ID NO: 2, the alanine in position 43 and the glutamic acid in position 58 of SEQ ID NO: 2, the glutamic acid in position 57 and the valine in position 70 of SEQ ID NO: 2, the valine in position 81 and the leucine in position 97 of SEQ ID NO: 2, the arginine in position 96 and the leucine in position 112 of SEQ ID NO: 2, the serine in position 119 and the serine in position 130 of SEQ ID NO: 2, and the valine in position 138 and the threonine in position 151 of SEQ ID NO: 2, the glutamic acid in position 14 and the cysteine in position 48, the glutamic acid in position 14 and the glycine in position 39, the leucine in position 37 and the cysteine in position 48 and the threonine in position 151 and the leucine in position 162 for diagnosing osteoarthritis cartilage or making antibody, **does not** reasonably provide enablement for (1) any amino acid sequence "having more than 70%, 85%, or 95% homology" with the sequence of SEQ ID NO: 2, (2) any "portion" of SEQ ID NO: 2 consisting of the sequence "comprised" between amino acid residues set forth in claim 5, (3) any pharmaceutical formulation in an orally administrable dosage form, comprising any amino acid sequence "having more than 70% homology" with the sequence of SEQ ID NO: 2, or any pharmaceutically acceptable salt of any amino acid sequence "having more than 70% homology" with the sequence of SEQ ID NO: 2 or any derivative of any amino acid sequence "having more than 70% homology" with the sequence of SEQ ID NO: 2 and "possibly" any pharmaceutically acceptable reductant and/or electron donor as set forth in claims 1-6 and 12 for treating any neurotoxic injury and (4) any amino acid sequence "having more than 70% homology" with the sequence of SEQ ID NO: 2 produced in yeast for preventing lipid peroxidation and apoptosis in lung injuries and/or diseases of oxidative stress-related disorders. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in **scope** with these claims.

Factors to be considered in determining whether undue experimentation is required to practice the claimed invention are summarized *In re Wands* (858 F2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988)). The factors most relevant to this rejection are the scope of the claim, the amount of direction or guidance provided, the lack of sufficient working examples, the unpredictability in the art and the amount of experimentation required to enable one of skill in the art to practice the claimed invention. The specification disclosure is insufficient to enable one skilled in the art to practice the invention as broadly claimed without an undue amount of experimentation.

The specification discloses only one human peroxiredoxin 5 polypeptide comprising SEQ ID NO: 2 for treating ibotenate induced brain lesions. The specification at page 39 paragraph 136 discloses intracerebral administration of recombinant peroxiredoxin 5 polypeptide comprising SEQ ID NO: 2 had no detectable protective effect on other neurotoxic injury or excitotoxic brain lesion induced by S-bromowillardiine. The specification further discloses peptide consisting of the amino acid sequence selected from the group consisting of the sequence between the glutamic acid in position 14 and the glutamic acid in position 28 of SEQ ID NO: 2, the alanine in position 27 and the leucine in position 37 of SEQ ID NO: 2, the alanine in position 43 and the glutamic acid in position 58 of SEQ ID NO: 2, the glutamic acid in position 57 and the valine in position 70 of SEQ ID NO: 2, the valine in position 81 and the leucine in position 97 of SEQ ID NO: 2, the arginine in position 96 and the leucine in position 112 of SEQ ID NO: 2, the serine in position 119 and the serine in position 130 of SEQ ID NO: 2, and the valine in position 138 and the threonine in position 151 of SEQ ID NO: 2, the glutamic acid in position 14 and the cysteine in position 48, the glutamic acid in position 14 and the glycine in position 39, the leucine in position 37 and the cysteine in position 48 and the threonine in position 151 and the leucine in position 162 for making antibody.

The specification does not teach how to make any and all amino acid sequence mentioned above because there is insufficient guidance as to the structure without the amino acid sequence of any amino acid having merely more than 70%, 85% or 95% *homology* with the sequence of SEQ ID NO: 2. The specification does not teach how to identify other amino acid sequence or variants of SEQ ID NO: 2 that has at least 30%, 15, and 5% amino acids difference, much less the function of such undisclosed amino acid sequence, in turn, would be effective for treating brain lesions or any excitotoxic injury caused by oxidative stress that affects neuronal cells or autoimmune osteoarthritis. The specification does not teach which amino acids within the full-

length sequence of SEQ ID NO: 2 are critical and can or cannot be change such as substitution, deletion, addition and combination thereof and whether the variant or derivative still maintains its structure and function, in turn, would useful for treating excitotoxic brain lesion induced by S-ibotenate, let alone any neurotoxic injury or excitotoxic injury induced by any agent such as S-bromowillardiine. The specification does not teach any assays that is useful for screening variants and is predictive of success in vivo. There is no recognition in the art that sequence identity predicts biological function and therefore a disclosure of sequence identity does not lead one of skill in the art at the time the invention was made to believe said identity gives a credible use to the claimed protein. It is known in the art that even single amino acid changes or differences in a protein's amino acid sequence can have dramatic effects on the protein's function. For example, Mason *et al* (Molecular Endocrinology 8(3): 325-332, 1994; PTO 892) teach in activin A, even a single amino acid substitution from cysteine to alanine fails to maintain either the structure and/or functions such as intracellular assembly and secretion of the dimer protein (see page 327, column 1, in particular), loss biological activity (See activin cysteine mutant 4 and 12, page 327, column 2, in particular) and loss of receptor binding activity (See Receptor Binding Activities of activin cysteine mutant 4 and 12, page 327, column 2, in particular). Mason *et al* further teach an equivalent protein such as TGFβ1 in which replacing cysteine residue for a serine residue resulted in loss bioactivity (See page 330, column 1, first paragraph, in particular).

Attwood *et al*, (PTO 892), teaches that protein function is context-dependent; the state of the art of making functional assignments merely on the basis of some degree of similarity between sequences and the current structure prediction methods is unreliable and knowing structure alone will not inherently tell us function (See figure, entire document).

Given the unlimited number of amino acid sequence, there is insufficient in vivo working example showing that any undisclosed amino acid sequences, particularly the derivative thereof and salt thereof of any amino acid sequence merely having more than 70% homology to SEQ ID NO: 2 are effective for treating all neurotoxic injury, any excitotoxic injury, any excitotoxic injury such as osteoarthritis.. In fact, the specification at page 39 paragraph 136 discloses intracerebral administration of recombinant peroxiredoxin 5 polypeptide comprising SEQ ID NO: 2 had no detectable protective effect on other neurotoxic injury or excitotoxic brain lesion induced by S-bromowillardiine.

It is known that autoimmune osteoarthritis is model dependent. It is not clear the reliance of intracerebral administration to any mouse pup is the appropriate model for autoimmune osteoarthritis. Further, the specification does not teach which possible "reductant" or "electron donor" should be include in the claimed "pharmaceutical formulation". A "reductant" or "electron donor" without the chemical structure has no structure, much less function for a formulation that is effective for treating any and all neurotoxic or excitotoxic injury.

With regard to "portion thereof" selected from the group consisting of the sequences "comprised" between the residues set forth in claim 5, the term "comprised" is open-ended. It expands the cited "portion" or fragment between the indicated residues of SEQ ID NO: 2 to include additional amino acids at either or both ends. There is a lack of guidance as to which amino acids to be added. The specification does not teach any of the fragment of SEQ ID NO: 2 has any activity in vitro or in vivo. There is not a single fragment from the smallest to the largest fragment shows any biological effect for treating any brain lesions caused by any neurotoxic injury or excitotoxic injury. As such, treatment of neurotoxic injury or any excitotoxic injury or osteoarthritis using any undisclosed amino acid sequence or any portion of SEQ ID NO: 2 is highly unpredictable, varies depending on the animal model, means of administration and composition of the polypeptide.

For these reasons, it would require undue experimentation of one skilled in the art to practice the claimed invention. See page 1338, footnote 7 of Ex parte Aggarwal, 23 USPQ2d 1334 (PTO Bd. Pat App. & Inter. 1992).

In re wands, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988), the decision of the court indicates that the more unpredictable the area is, the more specific enablement is necessary. In view of the quantity of experimentation necessary, the limited working examples, the unpredictability of the art, the lack of sufficient guidance in the specification and the breadth of the claims, it would take an undue amount of experimentation for one skilled in the art to practice the claimed invention.

11. Claims 1-6 and 12 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

The specification does not reasonably provide a **written description** of (1) any amino acid sequence "having more than 70%, 85%, or 95% homology" with the sequence of SEQ ID NO: 2, (2) any "portion" of SEQ ID NO: 2 consisting of the sequence "comprised" between amino acid residues set forth in claim 5, (3) any pharmaceutical formulation in an orally administrable dosage form, comprising any amino acid sequence "having more than 70% homology" with the sequence of SEQ ID NO: 2, or any pharmaceutically acceptable salt of any amino acid sequence "having more than 70% homology" with the sequence of SEQ ID NO: 2 or any derivative of any amino acid sequence "having more than 70% homology" with the sequence of SEQ ID NO: 2 and "possibly" any pharmaceutically acceptable reductant and/or electron donor as set forth in claims 1-6 and 12 for treating any neurotoxic injury and (4) any amino acid sequence "having more than 70% homology" with the sequence of SEQ ID NO: 2 produced in yeast for preventing lipid peroxidation and apoptosis in lung injuries and/or diseases of oxidative stress-related disorders.

The specification discloses only one human peroxiredoxin 5 polypeptide comprising SEQ ID NO: 2 for treating ibotenate induced brain lesions. The specification at page 39 paragraph 136 discloses intracerebral administration of recombinant peroxiredoxin 5 polypeptide comprising SEQ ID NO: 2 had no detectable protective effect on other neurotoxic injury or excitotoxic brain lesion induced by S-bromowillardiine. The specification further discloses peptide consisting of the amino acid sequence selected from the group consisting of the sequence between the glutamic acid in position 14 and the glutamic acid in position 28 of SEQ ID NO: 2, the alanine in position 27 and the leucine in position 37 of SEQ ID NO: 2, the alanine in position 43 and the glutamic acid in position 58 of SEQ ID NO: 2, the glutamic acid in position 57 and the valine in position 70 of SEQ ID NO: 2, the valine in position 81 and the leucine in position 97 of SEQ ID NO: 2, the arginine in position 96 and the leucine in position 112 of SEQ ID NO: 2, the serine in position 119 and the serine in position 130 of SEQ ID NO: 2, and the valine in position 138 and the threonine in position 151 of SEQ ID NO: 2, the glutamic acid in position 14 and the cysteine in position 48, the glutamic acid in position 14 and the glycine in position 39, the leucine in position 37 and the cysteine in position 48 and the threonine in position 151 and the leucine in position 162 for making antibody.

With the exception of the specific polypeptide comprising SEQ ID NO: 2 or the specific peptide consisting of the amino acid residues mentioned above, there is inadequate written description about the structure, i.e. amino acid sequence associated with function of any and all

amino acid sequence merely "having more than 70%, 85%, or 95% homology" with the sequence of SEQ ID NO: 2. The specification does not adequately describe which amino acids within the full-length sequence of SEQ ID NO: 2 are critical and can or cannot be change by substitution, deletion, addition and/or combination thereof and whether the variant or derivative still maintains its structure and function, in turn, would useful for treating all neurotoxic injury and/or all excitotoxic injury. Since the amino acid sequence having more than 70% homology with the sequence of SEQ ID NO: 2 is not adequately described, it also follows that any pharmaceutical formulation comprising any undisclosed amino acid sequence is not adequately described.

With regard to "portion thereof" selected from the group consisting of the sequences "comprised" between the residues set forth in claim 5, the term "comprised" is open-ended. It expands the cited "portion" or fragment between the indicated residues of SEQ ID NO: 2 to include additional amino acids at either or both ends. There is a lack of a written description about which amino acids to be added. The specification does not describe any fragment of SEQ ID NO: 2 from smallest to the largest fragment have any activity in vitro or in vivo, much less for treating any brain lesions caused by any neurotoxic injury or excitotoxic injury, including osteoarthritis. Further, the numbering of amino acid positions as set forth in claim 5 does not correspond to said amino acid residues in SEQ ID NO: 2. The numbering appears to be off by one in some but not all stated position. Please see item 8 above.

The specification discloses only human peroxiredoxin 5 polypeptide comprising SEQ ID NO: 2 that is useful for treating ibotenate induced brain lesions and only one reductant DTT, one of skill in the art would reasonably conclude that the disclosure fails to provide a representative number of species of amino acid sequence, derivative thereof, salt thereof, and portion of the sequence "comprised" between the specified residues of SEQ ID NO: 2 and pharmaceutically acceptable reductant and/or electron donor to describe the genus. Thus, Applicant was not in possession of the claimed genus. *See University of California v. Eli Lilly and Co. 43 USPQ2d 1398; University of Rochester v. G.D. Searle & Co., 69 USPQ2d 1886 (CA FC2004).*

Applicant is directed to the Final Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, ¶ 1 "Written Description" Requirement, Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001.

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

13. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The "possibly" in claim 6 is indefinite and ambiguous because it is not clear whether the pharmaceutical includes a pharmaceutically acceptable reductant and/or electron donor. One of ordinary skill in the art cannot appraise the metes and bound of the claimed invention.

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claims 1-6 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by the US Pat No. 6,197,543 (Filed Oct 1997, PTO 1449).

The '543 patent teaches an amino acid sequence such as VMP1 (SEQ ID NO: 1) that has a long stretch of amino acid residues identical to amino acid residues 1 to 162 of claimed SEQ ID NO: 2 (see residues from 53 to 214 of reference SEQ ID NO: 1, in particular). The long stretch of amino acid residues is 100% identical to the claimed amino acid sequence of SEQ ID NO: 2, which is more than 70%, 85% and 95% homology to the claimed sequence (see reference SEQ ID NO: 1 residues 53 to 202 of the '543 patent, Figure 4A-B from residues 53 to the end, in particular). The reference SEQ ID NO: 1 comprises a portion of claimed SEQ ID NO: 2 that encompasses the specified residues such as between the glutamic acid in position 14 and the glutamic acid in position 28 of SEQ ID NO: 2, the alanine in position 27 and the leucine in position 37 of SEQ ID NO: 2, the alanine in position 43 and the glutamic acid in position 58 of SEQ ID NO: 2, the glutamic acid in position 57 and the valine in position 70 of SEQ ID NO: 2, the valine in position 81 and the leucine in position 97 of SEQ ID NO: 2, the arginine in position 96 and the leucine in position 112 of SEQ ID NO: 2, the serine in position 119 and the serine in position 130 of SEQ ID NO: 2, and the valine in position 138 and the threonine in position 151 of SEQ ID NO: 2, the glutamic acid in position 14 and the cysteine in position 48, the glutamic acid in position 14 and the glycine in position 39, the leucine in position 37 and the cysteine in

position 48 and the threonine in position 151 and the leucine in position 162 (see enclosed sequence alignment, in particular). The term "having" is open-ended. It expands the claimed amino acid sequence to include additional amino acids at either or both ends to include the reference SEQ ID NO: 1. The reference amino acid sequence is produced in yeast such as *Saccharomyces cerevisiae* (see col. 18, lines 59-63, in particular). The '543 patent further teaches a pharmaceutical formulation for oral administration comprising the reference amino acid sequence or derivative thereof (see col. 22, lines 1-52, col. 23, lines 7-9, in particular) or salt thereof (see col. 29, lines 4-13, in particular) and a pharmaceutically acceptable carrier saline or in combination with other agents such as mannitol, which is an electron donor (see col. 28, lines 7-46, col. 27, lines 47-59, in particular). Claim 6 is included in this rejection because the Office interprets the term "possibly" to mean the claimed pharmaceutical formulation comprising the amino acid sequence according to claim 1 without a pharmaceutical acceptable reductant and/or electron donor. Thus, the reference teachings anticipate the claimed invention.

16. No claim is allowed.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Huynh "NEON" whose telephone number is (571) 272-0846. The examiner can normally be reached Monday through Friday from 9:00 am to 5:30 p.m. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (571) 272-0841. The IFW official Fax number is (571) 273-8300.

18. Any information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuong N. Huynh, Ph.D.

Patent Examiner
Technology Center 1600
March 3, 2006

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